The Development of Liberal Arts and Sciences

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
$ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
In Math We Trust \Box Technological Singularity \Box Alpha Go Zero \Box superhuman \Box

00000000000000000000000000000000000000
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
00000000000000000000000000000000000000
00000000000000000000000000000000000000
00000013 000014 $000000000000000000000000000000000000$
00000000000000000000000000000000000000
17 000000000000000000000000000000000000

$ \begin{bmatrix} 10 \end{bmatrix}_{00000000000000000000000000000000000$
000000000000000000000000000000000000
00000000000000000000000000000000000000
00000000000000000000000000000000000000
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
$18 \Box $
$\verb $

$\begin{array}{cccccccccccccccccccccccccccccccccccc$
000000000000000000000000000000000000
00000000000000000000000000000000000000
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
000000000000000000000000000000000000

$ \begin{array}{c} 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0$
leukotomy Forrest Gump
$\begin{array}{c} \verb $
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
00000000000000000000000000000000000000
$20 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$
00000000 leukotomy 000000000000000000000000000000000000
00000000000000000000000000000000000000
Universal approximation theorem

00000000000000000000000000000000000000
00000000000000000000000000000000000000
00000000000000000000000000000000000000
0000000000 SAE level 5000000000000000000000000000000000000
□ Deep Blue □□□Demis Hassabis □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
Deep Blue 000000000000000000000000000000000000
00000000000000000000000000000000000000
Occam's Razor

DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
One Gu Test A Progressive Measurement Of Generic Artificial Intelligence
00000000000000000000000000000000000000

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
000000000000000000000000000000000000
ARM CPU OS OS OS OS OS OS OS
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
00000000000000000000000000000000000000

$\frac{1920}{00000000000000000000000000000000000$
00000000000000000000000000000000000000
00000000000000000000000000000000000000
00000000000000000000000000000000000000
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
00000000000000000000000000000000000000
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
000000000000000000000000000000000000000

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
00000000000000000000000000000000000000
DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD

~~~~~~~~~

| [2] 000000000000000000000000000000000000                 |
|----------------------------------------------------------|
| [3] 000000000000000000000000000000000000                 |
|                                                          |
| 00000000000000000000000000000000000000                   |
| [4] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                 |
| In Math We Trust                                         |
| DDDDDDDDDDDDDDDDDTechnological Singularity               |
| [5] 000000000000000000000000000000000000                 |
| 00000000000000000000000000000000000000                   |
| [6] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                 |
| [7] 000000000000000000000000000000000000                 |
|                                                          |
| [8] DDDDDDDDDDDJJohn Philoponus                          |
| 000 Ibn al-Haytham 000000000000000000000000000000000000  |
| [9] DDDDDD architect DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD |
| [10]                                                     |
|                                                          |
| [11] personality                                         |

| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0000 personality 000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [12] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| [13]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| [14] 000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| [15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [[15] [ |
| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [16] 20 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| [17]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| 00000000000000000000000000000000000000                |
|-------------------------------------------------------|
|                                                       |
| [21] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD             |
|                                                       |
|                                                       |
|                                                       |
| $[22] \\ 0000000000000000000000000000000000$          |
|                                                       |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
|                                                       |
| $000001917 \ 00000000000000000000000000000000000$     |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 0000000000000000000000000000000000000                 |
|                                                       |
|                                                       |
|                                                       |
|                                                       |

## Technological Singularity ППП

| [26]                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                   |
| 00000000000000000000000000000000000000                                                                                                                                                                                                                                                                            |
| [27] [] The Guadian [] [] [] a meta-solution to any problem [] AGI [] [] [] [] [] [] [] [] [] [] [] [] []                                                                                                                                                                                                         |
| "Demis Hassabis is deadly serious when he tells me he is on a mission to 'solve intelligence, and then use that to solve everything else'.                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                   |
| 'One way of thinking of AGI is as a process that will automatically convert unstructured information into actionable knowledge. What we're working on is potentially a meta-solution to any problem.'",                                                                                                           |
| $\frac{https://www.theguardian.com/technology/2016/feb/16/demis-hassabis-artificial-intelligence-deepmind-alphago \textbf{\square}}{}$                                                                                                                                                                            |
| [28] DDAlphaGo Zero DDDDDDDDDAlphaGo Zero DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                   |
| 00 737 Max 00000000000000000000000000000000000                                                                                                                                                                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                   |
| "In thousands of tests, nothing like this had ever happened,' he said.", Boeing Built Deadly Assumptions Into 737 Max, Blind to a Late Design Change, <a href="https://www.nytimes.com/2019/06/01/business/boeing-737-max-crash.html">https://www.nytimes.com/2019/06/01/business/boeing-737-max-crash.html</a> . |
| Built Deadly Assumptions Into 737 Max, Blind to a Late Design Change,                                                                                                                                                                                                                                             |

| [31] The Selfish Gene (or The Immortal Gene) [[][][][][][][][][][][][][][][][][][][ |
|-------------------------------------------------------------------------------------|
|                                                                                     |
| [33]                                                                                |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                               |
|                                                                                     |
|                                                                                     |
|                                                                                     |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$                               |
| DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                                              |
| $[34] \ 00000000000000000000000000000000000$                                        |
|                                                                                     |
| [35]                                                                                |

ПППП [38] \_\_\_\_\_\_ Intel \_\_\_\_\_ Intel \_\_\_\_\_ CPU \_\_\_\_\_ CPU \_\_\_\_\_\_ 

| [39]                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                    |
| $ \\ \square \\                                $                                                                                                                                                                   |
| [40] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                                                                                                                                                                          |
|                                                                                                                                                                                                                    |
| [41] DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD                                                                                                                                                                          |
| $[42] \verb                                     $                                                                                                                                                                  |
| 00000000000000000000000000000000000000                                                                                                                                                                             |
| □ The Selfish Gene □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□                                                                                                                                                              |
| "0000"00000000000000000000000000000000                                                                                                                                                                             |
|                                                                                                                                                                                                                    |
| [43] "On 28 July, after reading Serbia's reply, Wilhelm commented, 'But that eliminates any reason for war' or 'every cause for war falls to the ground'Wilhelm's sudden change of mind about war enraged Bethmann |

Hollweg, the military, and the diplomatic service, who proceeded to sabotage

Wilhelm's offer.", from <a href="https://en.wikipedia.org/wiki/July\_Crisis">https://en.wikipedia.org/wiki/July\_Crisis</a>.

| 000000"0000"00000000000000000000000000 |
|----------------------------------------|
| 00000000000000000000000000000000000000 |
|                                        |
|                                        |
|                                        |
|                                        |
|                                        |
|                                        |
|                                        |
|                                        |
| 00000000000000000000000000000000000000 |
|                                        |

